



## **NATIONAL TRANSPORTATION SAFETY BOARD**

Office of Aviation Safety  
Washington, D.C. 20594

February 21, 2015

### **Attachment 5 – IFE Witness Statements**

## **OPERATIONAL FACTORS**

**DCA15MA019**

**COPY**

Footage from long range camera (Edwards)  
Witness statements

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20913

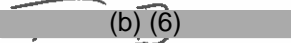
# IFE Witness Statement

In accordance with WATR IFE SOP, DOP-M-101, all WATR project support personnel will use this statement to document as accurately as possible all observation and information pertinent to the nature of the IFE. Upon completion, the statement will be submitted to the RCO. This statement is considered privileged information.

PROJECT EVENT: Space Ship 2	EVENT DATE: 10/31/14
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WITNESS STATEMENT:

Shortly after release with engines running the nose of the aircraft pulled up at this point the aircraft broke apart and fell to the ground

NAME and ORG CODE (Please print): Tim Bort MR	TITLE: field service engineer
SIGNATURE:  (b) (6)	DATE/TIME: 10/31/14 10:33

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PROJECT EVENT: <u>SPACE SHIP 2</u>	EVENT DATE: <u>10-31-2014</u>
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WITNESS STATEMENT: AFTER THE AIRCRAFT RELEASE LOOKS FLYING OK AND THEN AFTER FEW SECONDS THE AIRCRAFT TURN UP AND BROKE UP AND FALLING DOWN TO THE GROUND.

NAME and ORG CODE (Please print): <u>HECTOR RODRIGUEZ</u>	TITLE: <u>ELECTRONIC TECHNICIAN III</u>
SIGNATURE: <u>(b) (6)</u>	DATE/TIME: <u>10-31-2014</u>

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PROJECT EVENT: <i>Stars Ships II</i>	EVENT DATE: <i>10/31/14</i>
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WITNESS STATEMENT:

*Approx 30 sec after Release, aircraft turned its nose up with engines running and part of vertical stabilizer broke off - aircraft ~~was~~ went out of control & tumbled ~~too~~ to the ground.*

NAME and ORG CODE (Please print): <i>Albert Guatardo</i>	TITLE: <i>Electronic Tech III</i>
SIGNATURE: <i>[Redacted]</i> (b) (6)	DATE/TIME: <i>10/31/14 10:31 AM</i>



# RADAR WATR PREFLIGHT

12/4/00

DATE 304 A/C SS2 OP# 26997 FLIGHT# \_\_\_\_\_

DFILE 24 INT. SG63 REPLY SG60 CODE \_\_\_\_\_ DELAY \_\_\_\_\_

## Angle Lockons

BEACON

SKIN

AZ \_\_\_\_\_ EL \_\_\_\_\_ AZ 5194.95 EL 17.76

- 1. Pre Mislvel Complete
- 2. Phasing Complete
- 3. Optics Mounted & Tested
- 4. Board Checks Complete
- 5. Precals Complete
- 6. Postcals Complete
- 7. Mission Utilizations Complete

Operator DUB

# RADAR CALIBRATION MISSION REPORT

DATE (mm)

304

STATION  
**RIR 34**

START TIME (mm) **1300**

OPS NUMBER **26997**

CON NUMBER

REV NUMBER (mm) **24**

AIRCRAFT TYPE  
**552**

AIRCRAFT NUMBER

OPERATORS  
**D-B**

**I. BEACON PARAMETERS**

INTERROGATE FREQUENCY	<b>5660</b> MHz
TRANSMIT FREQUENCY	<b>5660</b> MHz
PULSE CODE SPACING	<del>                    </del> μSEC
DELAY	<del>                    </del> μSEC
PULSE WIDTH	<b>.5</b> μSEC

**V. ANTENNA CONFIGURATION**

TRANSMIT FREQUENCY	<b>5660</b> MHz
RECEIVE FREQUENCY	<b>5660</b> MHz
PULSE CODE SPACING	<del>                    </del> μSEC
DELAY	<del>                    </del> μSEC
PRF	<b>160</b> PPS
PULSE WIDTH	<b>.15</b> μSEC
RECEIVER BANDWIDTH (Width/Center)	<b>N/A</b>
RANGE BANDWIDTH (Pulse)	<b>3</b>
ANGLE BANDWIDTH	<b>FOURTON</b>
AZ(EA)	<b>2</b>
EL(EA)	<b>2</b>

**II. SIZE WEATHER DATA**

**PRE PST**

WET BULB	<b>50</b>	<b>51</b>	°F
DRY BULB	<b>60</b>	<b>63</b>	°F
PRESSURE	<b>919</b>	<b>919.2</b>	MBARS
WIND DIRECTION	<b>170</b>	<b>199</b>	°
WIND VELOCITY	<b>10</b>	<b>11</b>	Knots
GUSTS	<b>—</b>	<b>—</b>	Knots
TIME	<b>1615</b>	<b>1716</b>	Zulu

**VI. CALIBRATION**

TOWER		PRE (4th)	POST (4th)
NORMAL	AZ	<b>5194.95</b>	<b>5194.95</b>
	EL	<b>17.60</b>	<b>17.68</b>
DUMP	AZ	<b>5194.93</b>	<b>5194.88</b>
	EL	<b>17.65</b>	<b>17.60</b>

**III. MISSION OPERATIONS (mm)**

TIME OF AOB	Zulu
MEASURED PCA	°EL
MEASURED MINIMUM RANGE	76
MAX RESPONDER SIGNAL STRENGTH	dB
TIME OF LOS	Zulu

**IV. DATA RECORDED**

	TAPE ON (Zulu)	TAPE OFF (Zulu)
PRE CALS	<b>160550</b>	
MISSION		
POST CALS		<b>171430</b>

RANGE TARGET		
SKIN	<b>11525</b>	<b>11525</b>
BEACON	<del>                    </del>	
DUP (Elk-Beacon)	<del>                    </del>	
DUP X 5061	<del>                    </del>	

**16104**

**MILEVEL**

AZ(4th)	PRE (Sec)	POST (Sec)	AZ(4th)	PRE (Sec)	POST (Sec)	AZ(4th)	PRE (Sec)	POST (Sec)
0	<b>GTN</b>		2400			400		
400	<b>-27.84</b>		3000			500		
800	<b>GTW</b>		3200			5600		
1200	<b>-6.44</b>		3600			6000		
1600			4000			6400		
2000			4400					

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PROJECT EVENT

Space Ship 2 Test Flight

EVENT DATE:

10-31-14

WITNESS STATEMENT:

After Drop and Engine Fire it appeared that the ship broke apart and began falling. I continued to track the aircraft with Radar 34 until it went behind a hill.

D Boston

(b) (6)



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### PROJECT EVENT

White Knight II / SpaceShip II Powered Flight Test

EVENT DATE:  
10/31/14

### WITNESS STATEMENT

~~Not~~ I watched all footage via my computer. Approximate 9:20 takeoff. Video tracking was solid for entire climb to altitude. Clarity of video degraded until about 10:00 when the footage was clarified @ altitude (operator played with brightness/contrast, etc until better capture). Launch was @ 10:07. Nominal release of SpaceShip II; Motor Ignition was about 1-2 seconds after Release. ~~Ignition~~ Ignition looked good; SS II accelerated horizontal for several seconds, then started a pull-up maneuver, ~~at~~ at about a flight path angle of 30°, the vehicle banked starboard about 20-30 degrees. A second after that the back end of the vehicle exploded. The vehicle appeared to yaw 180° clockwise over the next several seconds, with the aft end on fire. The video feed was then cut.

Jonathan Pickrel

(b) (6)

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PROJECT EVENT

White knight 2 with Spaceship 2

EVENT DATE

10/31/14

WITNESS STATEMENT:

after SS2 separated from WK2 it dropped and engine fired nominally. several seconds later vehicle started pitch up to gain altitude. Vehicle broke up into several pieces. LRO followed largest piece to the ground. I didn't see any chutes or other crew escape.

*[Signature]*  
(b) (6)

10/31/14

10:33 am

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PROJECT EVENT

OP# 5614 WHITE KNIGHT / SPACESHIP 2

EVENT DATE:

31 OCT 14

WITNESS STATEMENT:

I OBSERVED SSZ SEPARATE FROM WKZ,  
THEN BOOSTER ~~WAS~~ IGNITED AND SSZ STARTED  
A GRADUAL CLIMB FOR APPROX 10 SECS THEN  
IT APPEARED TO EXECUTE A VIOLENT  
PITCH UP. THEN AN ~~EXP~~ EXPLOSION. THE  
VEHICLE REMAINED LARGELY INTACT WITH  
ONE OTHER PIECE IN THE FIELD OF VIEW

~~William P~~  
(b)(6)  
31 OCT 14

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PROJECT EVENT

OP # 5614 White Knight / Space Ship 2

EVENT DATE:

31 Oct 14

WITNESS STATEMENT:

I was watching the white knight flight, it separated the booster went off, it started to climb & then it looked like it broke into several pieces & some part were on fire.

(b) (6)

Laura I. Peters

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PROJECT EVENT

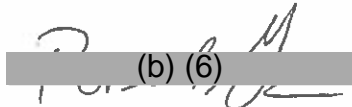
SS2 LAUNCH (OP 5614)

EVENT DATE:

31 OCT 14

WITNESS STATEMENT:

DURING FIRING OF MOTOR (SS2) AFTER SEPERATION  
I WITNESSED EITHER AN AIRCRAFT STRUCTURAL  
MALFUNCTION OR EXPLOSION. RADAR + VIDEO @  
NASA TRACKED TO GROUND

 (b) (6)

ROBERT GUERLE, RCO